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Sequence Listing was accepted.
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Reviewer: Anne Corrigan
Timestamp: Fri Jul 06 13:55:53 EDT 2007
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Validated By CRFValidator v 1.0.2

Application No: 10529000   Version No: 1.1

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<110> SATO, Noriyuki
      TSUKAHARA, Tomohide
      NABETA, Yuki
      KAWAGUCHI, Satoshi
      IKEDA, Hideyuki
      WADA, Takuro
      YAMASHITA, Toshihiko

<120> TUMOR ANTIGEN PROTEIN AND USE THEREOF

<130> 0020-5360PUS1

<140>   US 10/529,000
<141>   2005-03-24

<150> PCT/JP03/12037
<151> 2003-09-19

<150> JP 2002-282345
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<170> PatentIn Ver. 2.1

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                                       1   5
cga cgc ctt gga aag cgg tcc ctc ctg gga gcc cgg gtg ttg gga ccc   402
Arg Arg Leu Gly Lys Arg Ser Leu Leu Gly Ala Arg Val Leu Gly Pro
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agt gcc tcg gag ggg ccc tcg gct gcc cca ccc tcg gag cca ctg cta   450
Ser Ala Ser Glu Gly Pro Ser Ala Ala Pro Pro Ser Glu Pro Leu Leu
        25   30   35
gaa ggg gcc gct ccc cag cct ttc acc acc tct gat gac acc ccc tgc   498
Glu Gly Ala Ala Pro Gln Pro Phe Thr Thr Ser Asp Asp Thr Pro Cys
    40   45   50
cag gag cag ccc aag gaa gtc ctt aag gct ccc agc acc tcg ggc ctt   546
Gln Glu Gln Pro Lys Glu Val Leu Lys Ala Pro Ser Thr Ser Gly Leu
 55   60   65   70

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ggt caa gag tgc aca gga ctg gtg gag cag cac agc tgg atg gag ggt      642
Gly Gln Glu Cys Thr Gly Leu Val Glu Gln His Ser Trp Met Glu Gly
                90                  95                  100
cag gtg acc gtc tgg ctg ctg gag cag aag ctg cag gtc tgc tgc agg      690
Gln Val Thr Val Trp Leu Leu Glu Gln Lys Leu Gln Val Cys Cys Arg
            105                 110                 115
gtg gag gag gtg tgg ctg gca gag ctg cag ggc ccc tgt ccc cag gca      738
Val Glu Glu Val Trp Leu Ala Glu Leu Gln Gly Pro Cys Pro Gln Ala
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cca ccc ctg gag ccc gga gcc cag gcc ctg gcc tac agg ccc gtc tcc      786
Pro Pro Leu Glu Pro Gly Ala Gln Ala Leu Ala Tyr Arg Pro Val Ser
135                 140                 145                 150
agg aac atc gat gtc cca aag agg aag tcg gac gca gtg gaa atg gat      834
Arg Asn Ile Asp Val Pro Lys Arg Lys Ser Asp Ala Val Glu Met Asp
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gag atg atg gcg gcc atg gtg ctg acg tcc ctg tcc tgc agc cct gtt      882
Glu Met Met Ala Ala Met Val Leu Thr Ser Leu Ser Cys Ser Pro Val
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gta cag agt cct ccc ggg acc gag gcc aac ttc tct gct tcc cgt gcg      930
Val Gln Ser Pro Pro Gly Thr Glu Ala Asn Phe Ser Ala Ser Arg Ala
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gcc tgc gac cca tgg aag gag agt ggt gac atc tcg gac agc ggc agc      978
Ala Cys Asp Pro Trp Lys Glu Ser Gly Asp Ile Ser Asp Ser Gly Ser
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Ser Pro Pro His Pro Gln Ala Ser Pro Lys Tyr Leu Gly Asp Ala Phe
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ggt tct ccc caa act gat cat ggc ttt gag acc gat cct gac cct ttc     1122
Gly Ser Pro Gln Thr Asp His Gly Phe Glu Thr Asp Pro Asp Pro Phe
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Leu Leu Asp Glu Pro Ala Pro Arg Lys Arg Lys Asn Ser Val Lys Val
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atg tac aag tgc ctg tgg cca aac tgt ggc aaa gtt ctg cgc tcc att     1218
Met Tyr Lys Cys Leu Trp Pro Asn Cys Gly Lys Val Leu Arg Ser Ile
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ggg gct ctc agc aag tca gct cct ggg tcc ttc tgg cac att cag gca      1554
Gly Ala Leu Ser Lys Ser Ala Pro Gly Ser Phe Trp His Ile Gln Ala
                395                 400                 405

gat cat gca tac cag gct ctg cca tcc ttc cag atc cca gtc tca cca      1602
Asp His Ala Tyr Gln Ala Leu Pro Ser Phe Gln Ile Pro Val Ser Pro
            410                 415                 420

cac atc tac acc agt gtc agc tgg gct gct gcc ccc tcc gcc gcc tgc      1650
His Ile Tyr Thr Ser Val Ser Trp Ala Ala Ala Pro Ser Ala Ala Cys
        425                 430                 435

tct ctc tct ccg gtc cgg agc cgg tcg cta agc ttc agc gag ccc cag      1698
Ser Leu Ser Pro Val Arg Ser Arg Ser Leu Ser Phe Ser Glu Pro Gln
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cag cca gca cct gcg atg aaa tct cat ctg atc gtc act tct cca ccc      1746
Gln Pro Ala Pro Ala Met Lys Ser His Leu Ile Val Thr Ser Pro Pro
455                 460                 465                 470

cgg gcc cag agt ggt gcc agg aaa gcc cga ggg gag gct aag aag tgc      1794
Arg Ala Gln Ser Gly Ala Arg Lys Ala Arg Gly Glu Ala Lys Lys Cys
                475                 480                 485

cgc aag gtg tat ggc atc gag cac cgg gac cag tgg tgc acg gcg tgc      1842
Arg Lys Val Tyr Gly Ile Glu His Arg Asp Gln Trp Cys Thr Ala Cys
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cgg tgg aag aag gcc tgc cag cgc ttt ctg gac tga gctgtgctgc          1888
Arg Trp Lys Lys Ala Cys Gln Arg Phe Leu Asp
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            35                  40                  45
Ser Asp Asp Thr Pro Cys Gln Glu Gln Pro Lys Glu Val Leu Lys Ala
        50                  55                  60
Pro Ser Thr Ser Gly Leu Gln Gln Val Ala Phe Gln Pro Gly Gln Lys
 65                  70                  75                  80
Val Tyr Val Trp Tyr Gly Gly Gln Glu Cys Thr Gly Leu Val Glu Gln
                85                  90                  95
His Ser Trp Met Glu Gly Gln Val Thr Val Trp Leu Leu Glu Gln Lys
            100                 105                 110
Leu Gln Val Cys Cys Arg Val Glu Glu Val Trp Leu Ala Glu Leu Gln
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Gly Pro Cys Pro Gln Ala Pro Pro Leu Glu Pro Gly Ala Gln Ala Leu
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Ala Tyr Arg Pro Val Ser Arg Asn Ile Asp Val Pro Lys Arg Lys Ser
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Phe Ser Ala Ser Arg Ala Ala Cys Asp Pro Trp Lys Glu Ser Gly Asp
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Ile Ser Asp Ser Gly Ser Ser Thr Thr Ser Gly His Trp Ser Gly Ser
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Ser Gly Val Ser Thr Pro Ser Pro His Pro Gln Ala Ser Pro Lys
225                 230                     235                          240
Tyr Leu Gly Asp Ala Phe Gly Ser Pro Gln Thr Asp His Gly Phe Glu
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Thr Asp Pro Asp Pro Phe Leu Leu Asp Glu Pro Ala Pro Arg Lys Arg
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Lys Asn Ser Val Lys Val Met Tyr Lys Cys Leu Trp Pro Asn Cys Gly
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Lys Val Leu Arg Ser Ile Val Gly Ile Lys Arg His Val Lys Ala Leu
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His Leu Gly Asp Thr Val Asp Ser Asp Gln Phe Lys Arg Glu Glu Asp
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Phe Tyr Tyr Thr Glu Val Gln Leu Lys Glu Glu Ser Ala Ala Ala Ala
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Ala Ala Ala Ala Ala Gly Thr Pro Val Pro Gly Thr Pro Thr Ser Glu
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Pro Ala Pro Thr Pro Ser Met Thr Gly Leu Pro Leu Ser Ala Leu Pro
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Pro Pro Leu His Lys Ala Gln Ser Ser Gly Pro Glu His Pro Gly Pro
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Glu Ser Ser Leu Pro Ser Gly Ala Leu Ser Lys Ser Ala Pro Gly Ser
385                 390                     395                          400
Phe Trp His Ile Gln Ala Asp His Ala Tyr Gln Ala Leu Pro Ser Phe
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Gln Ile Pro Val Ser Pro His Ile Tyr Thr Ser Val Ser Trp Ala Ala
             420                 425                     430
Ala Pro Ser Ala Ala Cys Ser Leu Ser Pro Val Arg Ser Arg Ser Leu
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Ser Phe Ser Glu Pro Gln Gln Pro Ala Pro Ala Met Lys Ser His Leu
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Ile Val Thr Ser Pro Pro Arg Ala Gln Ser Gly Ala Arg Lys Ala Arg
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